

(No Model.)

2 Sheets—Sheet 1.

C. M. HOLLINGSWORTH.
ROUNDAABOUT.

No. 474,658.

Patented May 10, 1892.

Fig. 1.

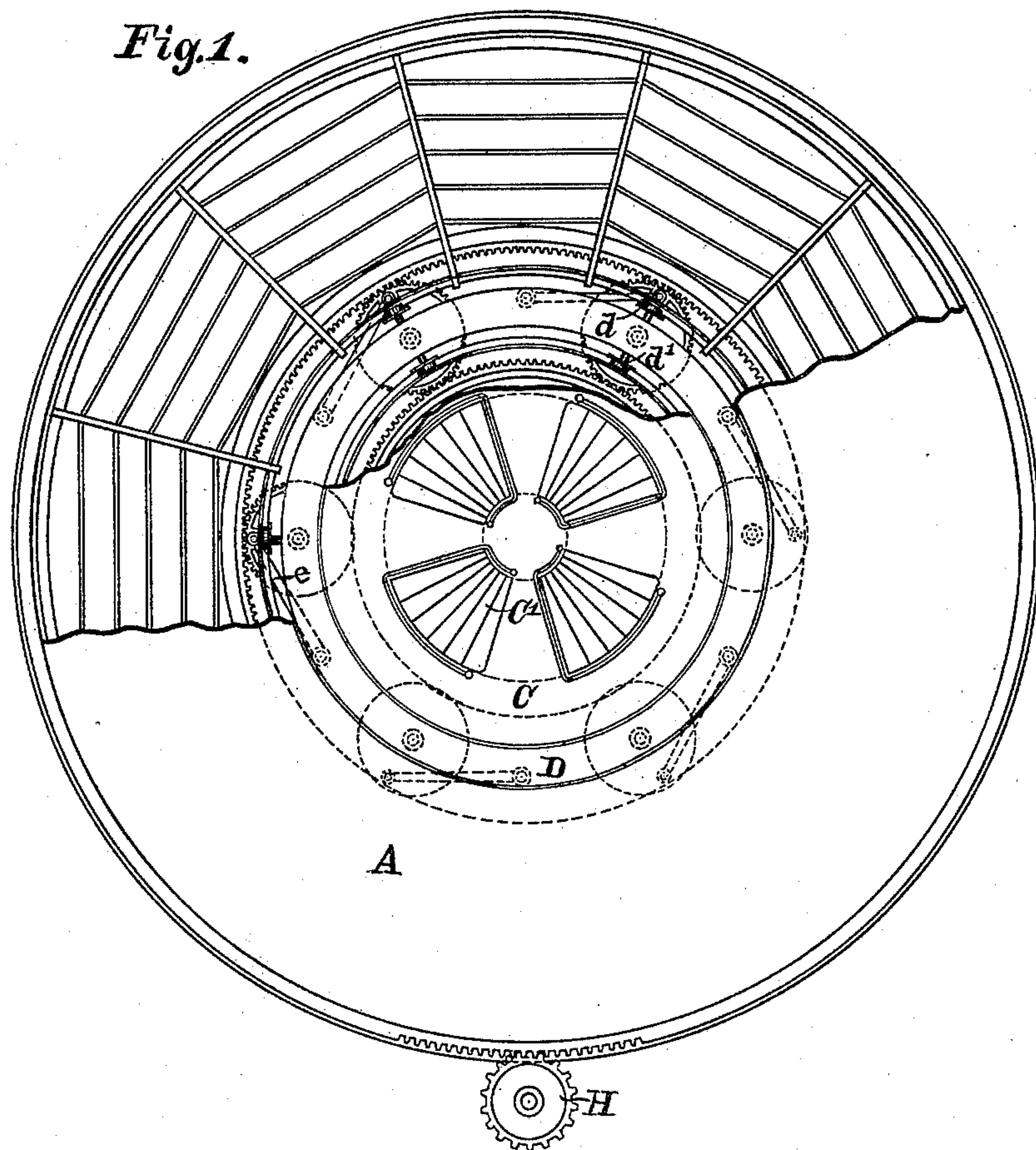
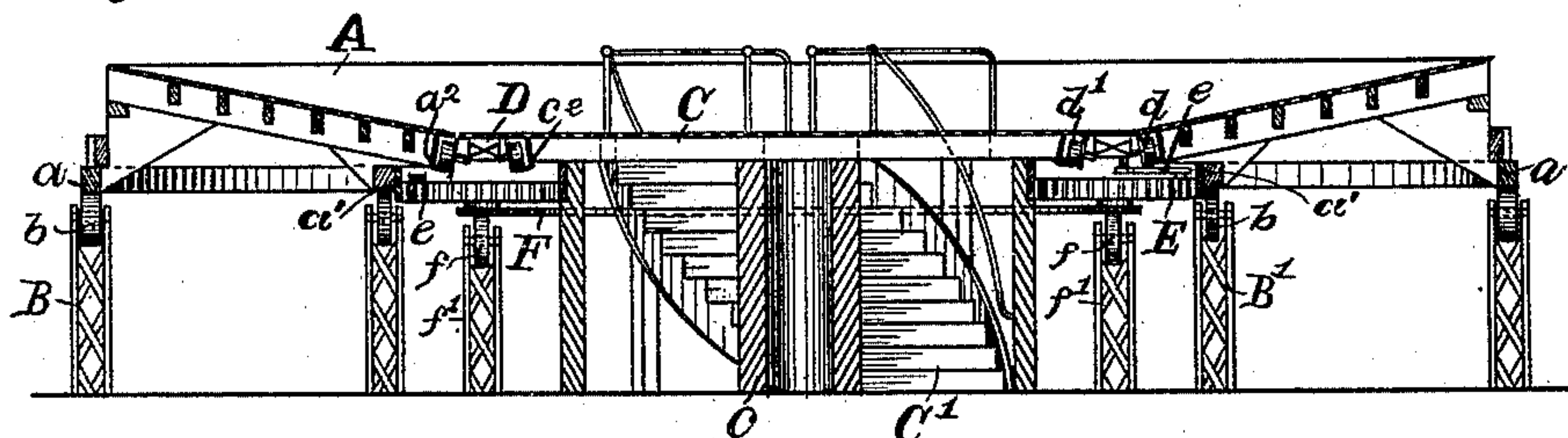


Fig. 2.



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(No Model.)

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Fig 3.

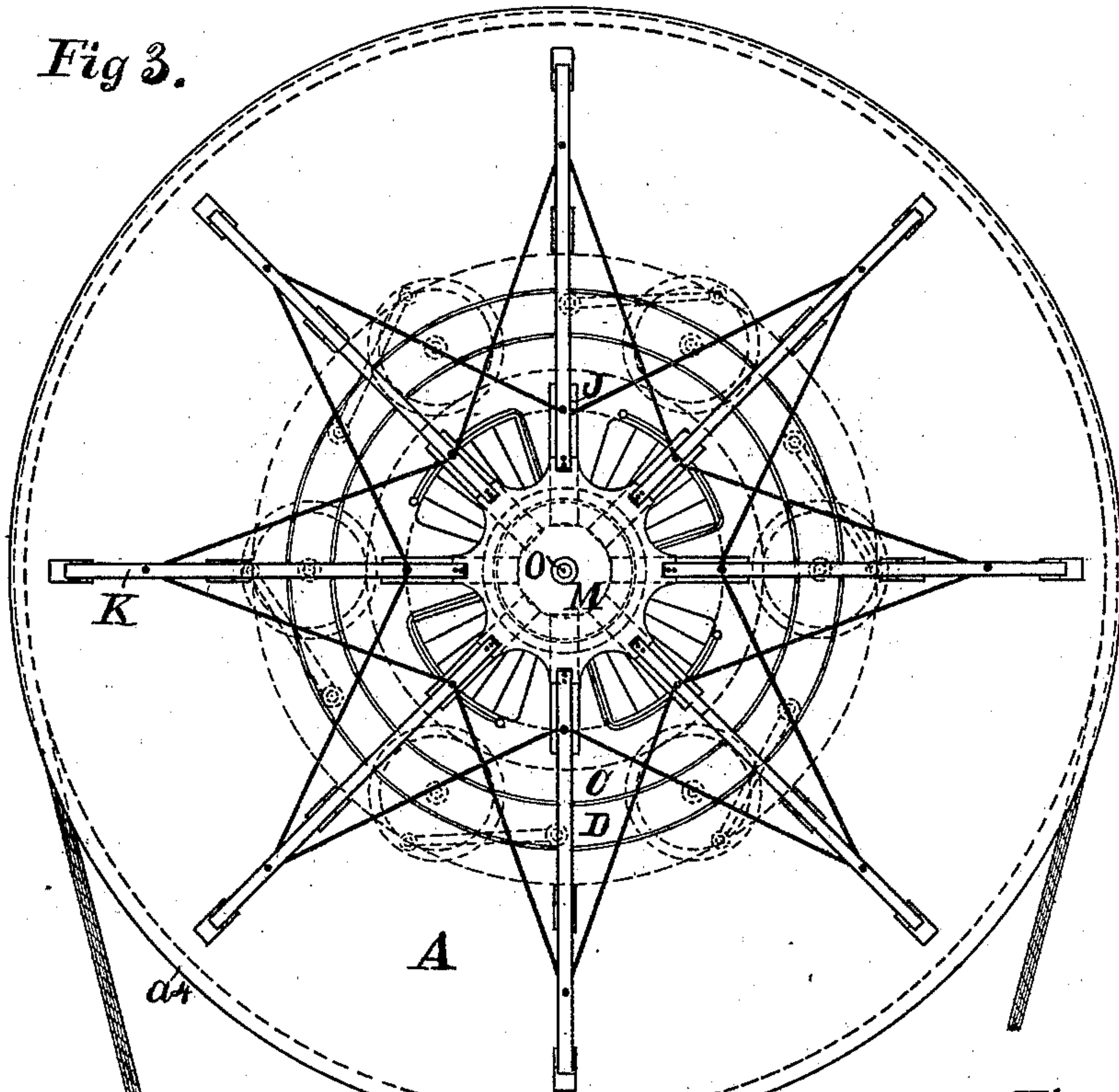


Fig 4a.

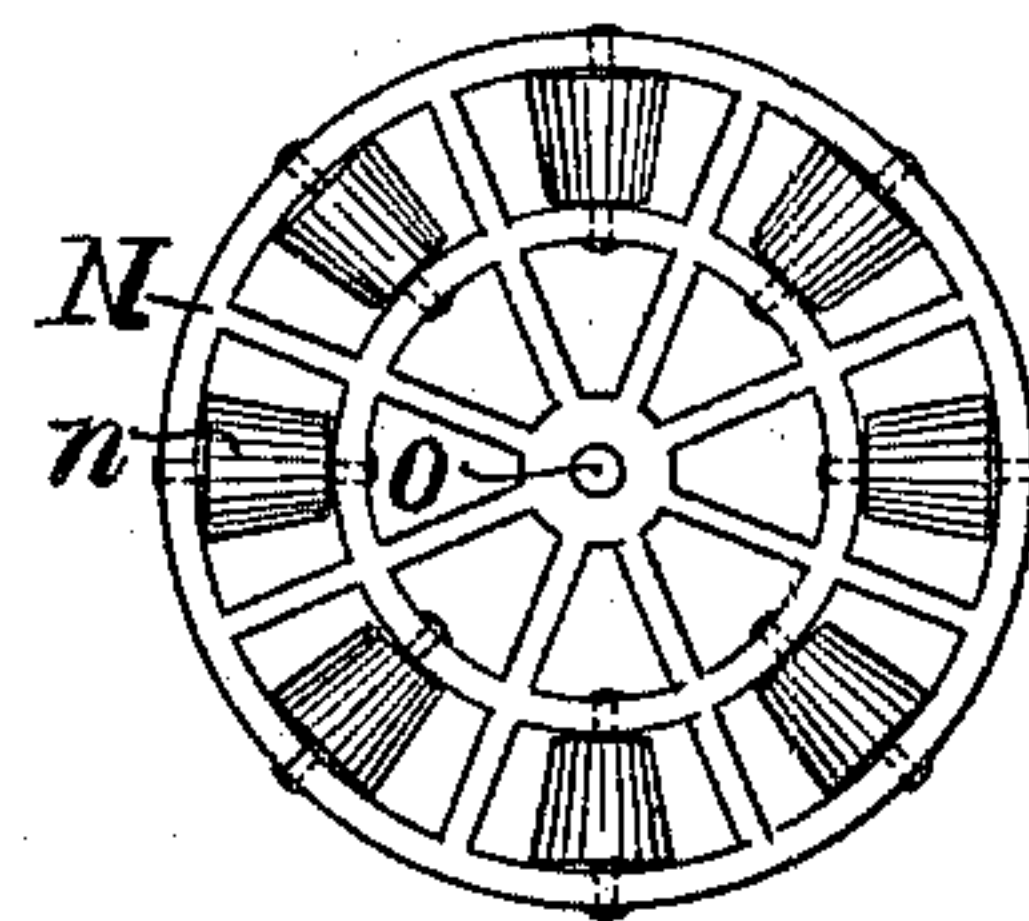
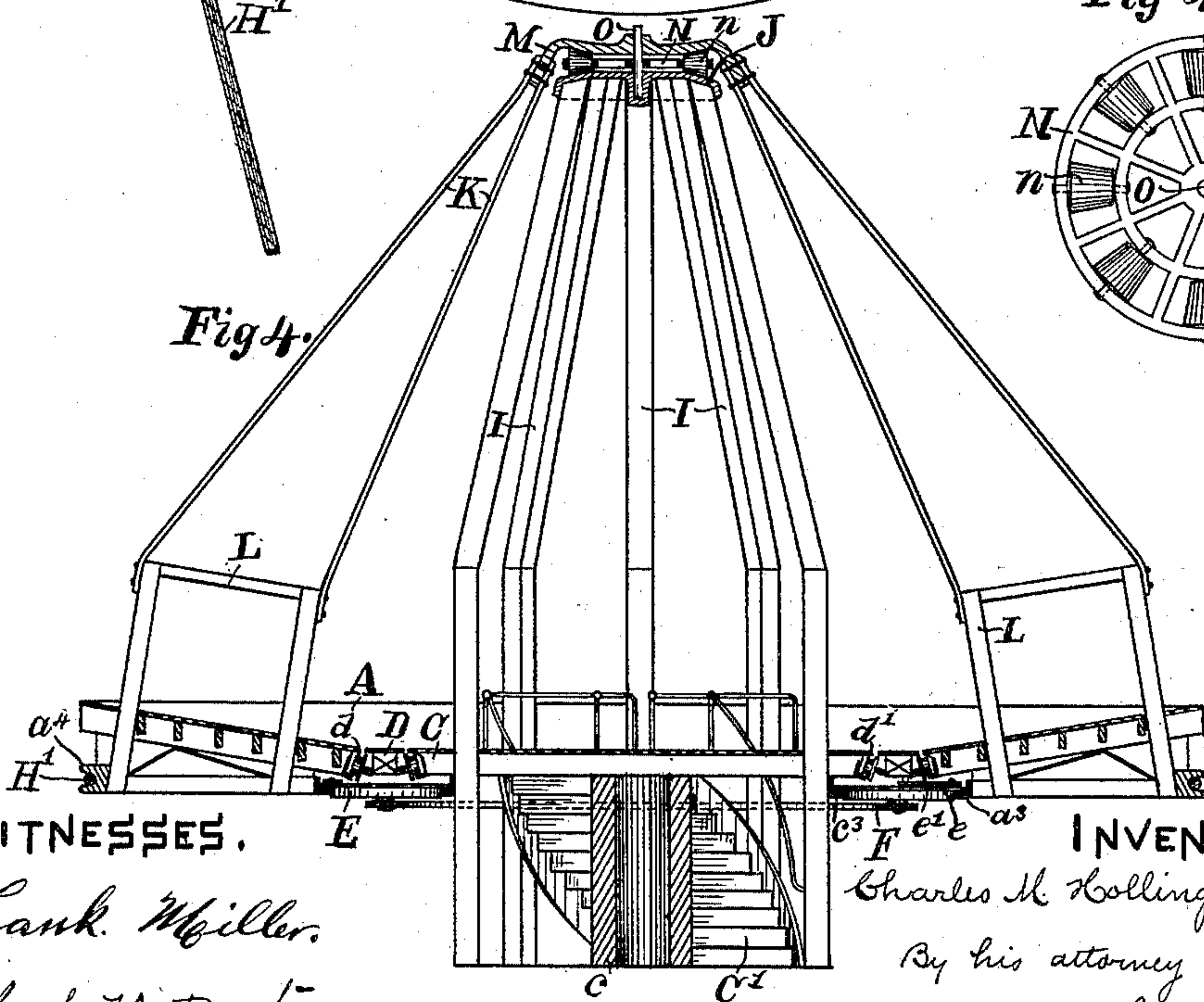


Fig 4.



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UNITED STATES PATENT OFFICE.

CHARLES M. HOLLINGSWORTH, OF CLEVELAND, OHIO.

ROUNABOUT.

SPECIFICATION forming part of Letters Patent No. 474,658, dated May 10, 1892.

Application filed July 20, 1891. Serial No. 400,158. (No model.)

To all whom it may concern:

Be it known that I, CHARLES M. HOLLINGSWORTH, a citizen of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Rotary Pavilions, of which the following is a specification.

The object of my invention is to provide a structure which includes in its make-up a circular revolving platform and suitable means whereby a person may get to and from said platform while it is in motion without danger of being thrown off his balance by any sudden change from a condition of rest to one of motion, or vice versa.

I have based the construction and mode of operation of the invention primarily on the fact that while a person could be thrown off his balance in passing from a fixed to a rapidly-moving platform, or vice versa, he could, without any such result, pass from one moving platform to another platform moving in fixed relation thereto.

My invention consists, broadly, in the combination of a platform, a surrounding platform having a circular opening, one of said platforms being stationary and the other revoluble, and means for revolving the latter, with an intermittently-moving ring-shaped platform intermediate of the other two platforms.

It also consists in the more specific combination of parts which are hereinafter described, and definitely pointed out in the claims.

In the drawings, Figure 1 is a plan view, shown partly in section, of one form of my improved structure. Fig. 2 is a central vertical section of the same. Fig. 3 is a plan view, and Fig. 4 a vertical section, of another form of said structure. Fig. 4^a is a detached view of the roller-bearing which forms a part of the mechanism by which the revolving platform shown in Figs. 3 and 4 is properly supported.

Referring now to the drawings, and for the time being confining our attention to Figs. 1 and 2, A represents a circular revoluble platform, which is sufficiently elevated to make it operative in the manner and for the purpose hereinafter set forth. It is supported on two concentric rows of columns B B', one row

being arranged beneath the outer edge and the other beneath the inner edge of said platform. On each column is mounted a roller b, and the circular beams a a' of the platform A serve as tracks which ride on said rollers. The platform A is ring-shaped—that is, it has a circular central opening—and a circular stationary platform C, firmly supported on a column c or its equivalent, is placed in the center of the opening in said platform A. The platform C is reached by means of stairs C' or other suitable means.

D represents a ring-shaped platform, which is placed intermediate of the platforms A and C and concentric with them. The platform D is an intermittently-moving platform—that is to say, at intervals it is stationary and is then moved forward with gradually-increasing speed until it acquires, substantially, the same angular rate of motion as the platform A, after which its rate of motion is gradually decreased until it again comes to rest.

The platform D is supported by two independent sets of wheels d d', which are mounted on said platform beneath the outer and inner edges thereof, respectively. The outer series of rollers ride upon a flange a², which is supported by the platform A, and the inner series of rollers ride upon the fixed flange c². The floor of the platform D is on a level with the platform C at its inner edge and at its outer edge with the inner edge of the platform A.

Below the platform D is a stiff ring F, to which are pivoted on vertical axes and at suitable intervals a number of wheels E. These wheels are so placed that the platform C engages with them on one side of their axes and the platform A engages with them on the other side thereof. Thus, as the platform A revolves, the wheels E roll around the platform C. The principal function of the ring F is to keep the wheels E properly spaced. Each wheel E is connected with the platform D by means of a pitman e. In the construction shown in Figs. 1 and 2 the wheels E are cog-wheels, which mesh with the cogs on the inner periphery of the platform A and the outer periphery of the platform C, and the ring F rides on rollers f, mounted on the tops of the columns f', which are arranged in a circle concentric with the

axis of rotation of the platform A. In this construction the wheels E are supported by the ring F.

In the construction shown in Figs. 3 and 4, the wheels E are friction-wheels and are revolved by the friction between them and the fixed platform C on the one side and the revolving platform A on the other side. These wheels are each provided with an annular flange e' , which rests upon the fixed flange e^3 and the flange a^3 on the platform A. In this construction the ring F is sustained by the wheels E.

The means for revolving the platform A, which is shown in Figs. 3 and 4, consists of the driven cable H, which runs in a groove a^4 in the outer periphery of the platform A. When the wheels E are friction-wheels, as above described, the cable has an additional function besides merely driving the platform A—to wit, it draws the platform B slightly to one side and against the friction-wheels E with sufficient force to insure their revolution as the platform A revolves. The platform A (shown in Figs. 1 and 2) has teeth to its outer periphery which mesh with the teeth of the driven cog-wheel H, whereby the platform A is revolved. The revolution of the wheels E causes the platform D to move forward intermittently in the following manner, to wit: When the points of connection between the wheels and pitman are nearest the center of rotation of the platform A, the platform D is stationary. As these points of connection move outward the platform D is started and then moved forward with gradually-increasing velocity until said points of connection are farthest from said center of rotation, at which time the platform D will be revolving at substantially the same angular rate as the platform A. As the said points of connection move inward the rate of motion gradually decreases until the platform becomes stationary at the point above pointed out.

When the platform D is stationary, or nearly so, persons may without danger step from it to the platform C or from the platform C to it. When revolving at substantially the same rate as the platform A, persons may without danger pass from one to the other.

The platform A shown in Fig. 4 is upheld by mechanism differing from that shown for the same purpose in Figs. 1 and 2. Fixed converging posts I extend above the stationary platform C and are bound together by a cap-plate J, thereby forming a supporting-tower. The platform A is suspended by stiff suspension-rods K and suitable braces L from a center plate M. A circular frame N has journaled to it the radially-disposed friction-rollers M. The rollers are tapered and the upper side of the plate J and the under side of the plate M are inclined, so that the rollers bear evenly against both plates when the frame N is placed between them. A pin O passes centrally through the plates J and M

and the frame N. Thus the platform A is suspended in proper relation to the fixed platform C and is held in this position and is permitted to be revolved by the cable or other appropriate instrumentality.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination of a platform, a surrounding platform having a circular opening, one of said platforms being fixed and the other revoluble, and means for revolving the latter, with an intermittently-moving ring-shaped platform concentric with and intermediate of the other two platforms, substantially as and for the purpose specified.

2. The combination of a stationary circular platform and means for getting to and from the same with an intermittently-movable ring-shaped platform surrounding the stationary platform and a revolving ring-shaped platform surrounding the intermittently-movable platform, substantially as and for the purpose specified.

3. The combination of a stationary circular platform, means for getting to and from the same, and a fixed flange, as c^2 , with a revolving ring-shaped platform which surrounds the stationary platform and has an annular flange at its inner edge, as a^2 , and a ring-shaped platform intermediate of the stationary and revolving platforms having two independent series of wheels at its outer and inner edges, respectively, which ride upon said flanges, substantially as and for the purpose specified.

4. The combination of a stationary circular platform, a ring-shaped platform surrounding it, and a revolving ring-shaped platform surrounding both of the other platforms with a series of horizontal wheels which engage with the fixed platform and the revolving platform and suitable connections between said wheels and the intermediate platform, whereby the latter is moved intermittently, substantially as and for the purpose specified.

5. The combination of a stationary circular platform, a ring-shaped platform surrounding it, and a revolving ring-shaped platform surrounding both the others with a ring, as F, means for supporting said ring, a series of horizontal wheels journaled to said ring and engaging on opposite sides of their axes with the fixed platform and the revolving platform, respectively, and pitmen connecting said wheels with the intermediate platform, substantially as and for the purpose specified.

6. The combination of a stationary circular platform, a fixed annular flange, as c^3 , a movable ring-shaped platform surrounding it, and a revolving ring-shaped platform surrounding both the other platforms and having an annular flange, as a^3 , with a series of horizontal wheels each having a flange which rests upon the flanges a^3 and c^3 , said wheels engaging with the fixed and revolving platforms, respectively, a ring, as F, to which said wheels

are journaled, and pitmen connecting said wheels with the intermediate platform, substantially as and for the purpose specified.

5 7. The combination of a stationary circular platform, a movable ring-shaped platform surrounding it, a revoluble ring-shaped platform surrounding both the others, and a driven cable engaging with said outer platform with a series of horizontal friction-wheels which lie
10 between and engage with the outer platform

and the fixed inner platform and suitable connections between said wheels and the intermediate platform, whereby the latter is moved intermittently, substantially as and for the purpose specified.

CHARLES M. HOLLINGSWORTH.

Witnesses:

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FRANK. MILLER.